We claim:

1. An electronic assembly comprising:

at least one functional block having at least one asymmetric feature, said functional block comprising an integrated circuitry to perform a function pertaining to said electronic assembly;

a substrate having at least one receptor site shaped to mate with said functional block using a fluidic self-assembly process.

2. The electronic assembly as in claim 1 wherein said receptor site includes said least one key to fit with said at least one asymmetric feature on said at least one the functional block.

3. The electronic assembly as in claim 1 wherein said at least one asymmetric feature is a plurality of asymmetric features and wherein said receptor site further includes a plurality of keys each of said plurality of key to fit with one of said plurality of asymmetric features.

4. The electronic assembly as in claim 1 wherein said functional block has a top surface, a bottom surface, and beveled edges, said top surface has a dimension that is larger than a dimension of said bottom surface, and said beveled edges are sloped from said top surface to said bottom surface.

5. The electronic assembly as in claim 1 wherein said functional block has a top surface, a bottom surface, and partially beveled edges.

6. The electronic assembly as in claim 4 wherein said at least one asymmetric feature is located at said top surface of said functional block.

7. The electronic assembly as in claim 4 wherein said top surface of said functional block comprises a tab to form said at least one asymmetric feature in said functional block.

8. The electronic assembly as in claim 1 wherein said at least one asymmetric feature is a part of said functional block that causes said functional block to lose a top surface rotational symmetry.

9. The electronic assembly as in claim 1 wherein said receptor site is rotated at an angle with respect to said substrate to match a preferred orientation of said functional block during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

10. An electronic assembly comprising:

at least one functional block having

a top surface,

a bottom surface,

a plurality of vertical edges,

at least one asymmetric feature, and

an integrated circuitry coupling to said top surface to perform a function pertaining to said electronic assembly;

a substrate having at least one receptor site to fit with said functional block using a fluidic self assembly process wherein when said functional block couples to said receptor site said top surface faces upward and said bottom surface contacts the bottom of said receptor site; and

wherein said functional block has a shape that prevents said functional block from mating with said receptor site with said top surface facing downward and contacting the bottom of said receptor site.

11. The electronic assembly as in claim 10 wherein said receptor site has at least one key to fit said at least one asymmetric feature.

12. The electronic assembly as in claim 10 wherein said at least one asymmetric feature is a part of said functional block that causes said functional block to lose a top surface rotational symmetry.

13. The electronic assembly as in claim 10 wherein the shape of a cross section of the block is rectangular.

14. The electronic assembly as in claim 10 wherein said at least one asymmetric feature is a notch having a right angle alignment to the rest of said top surface of said functional block.

15. The electronic assembly as in claim 10 wherein said receptor site is rotated at an angle with respect to said substrate to match an orientation of said functional block during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

16. An electronic assembly comprising:

at least one functional block having at least one asymmetrical feature, said functional block comprising an integrated circuitry to perform a function pertaining to said electronic assembly;

a substrate having at least one receptor site to mate with said functional block using a fluidic self-assembly process;

said functional block and said at least one asymmetric feature being shaped to optimize efficient use of a starting material used to fabricate said functional block.

17. The electronic assembly as in claim 16 wherein said functional block is formed together with other functional blocks on said starting material wherein said functional block and said other functional blocks form a close-packed structure to efficiently use said starting material.

18. The electronic assembly as in claim 16 wherein said receptor site includes at least one key to fit said at least one asymmetric feature.

19. The electronic assembly as in claim 16 wherein said functional blocks includes a plurality of asymmetric features and wherein said receptor site further includes a plurality of keys each of said plurality of keys to fit with one of said plurality of asymmetric features.

20. The electronic assembly as in claim 16 wherein said functional block has a top surface, a bottom surface, and beveled edges, said top surface has a dimension that is larger than a dimension of said bottom surface, and said beveled edges are sloped from said top surface to said bottom surface.

21. The electronic assembly as in claim 20 wherein said at least one asymmetric feature is located at said top surface of said functional block.

22. The electronic assembly as in claim 21 wherein said top surface of said functional block comprises a tab to form said at least one asymmetric feature in said functional block.

23. The electronic assembly as in claim 16 wherein said at least one asymmetric feature is a part of said functional block that causes said functional block to lose a top surface rotational symmetry.

24. The electronic assembly as in claim 16 wherein said receptor site is rotated at an angle with respect to said substrate to match a preferred orientation of said functional block during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

25. An electronic assembly comprising:

a substrate having at least one receptor site;

at least one functional block having an integrated circuitry to perform a function pertaining to said electronic assembly, said functional block having at least two asymmetric features arranged to create at least one top-surface rotational symmetry about the center axis perpendicular to the top surface of said at least one functional block,

wherein said functional block is further a chiral structure of another functional block having another integrated circuitry,

wherein said at least two asymmetric features are arranged to create said top-surface rotational symmetry about the center axis perpendicular to the top surface of said another functional block; and

wherein said receptor site couples to said functional block

26. The electronic assembly as in claim 25 wherein said functional block and said two asymmetric features have shapes that optimize efficient use of a starting material that is used to fabricate said functional block.

27. The electronic assembly as in claim 25 wherein said functional block has a top surface, a bottom surface, and beveled edges, said top surface has a dimension that is larger than a dimension of said bottom surface, and said beveled edges are sloped from said top surface to said bottom surface.

28. The electronic assembly as in claim 27 wherein said two asymmetric features are located at said top surface of said functional block.

29. The electronic assembly as in claim 28 wherein said top surface of said functional block is coupled to two tabs to form said two asymmetric features in said functional block.

30. The electronic assembly as in claim 25 wherein said receptor site is rotated at an angle with respect to said substrate to match a preferred orientation of said functional block during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

31. An electronic assembly comprising:

a substrate having a plurality of receptor sites; and

a plurality of functional blocks to couple to said plurality of receptor sites, said plurality of functional blocks having integrated circuits to perform functions pertaining to said electronic assembly, wherein said plurality of functional blocks includes at least two different types of functional blocks each of which perform a different function pertaining to said electronic assembly, wherein at least one type of said plurality of functional blocks has at least one asymmetric feature, and wherein each of said plurality of receptor sites mates with one of said plurality of functional blocks.

32. The electronic assembly as in claim 31 wherein each of said receptor sites is shaped to match a shape of one of said plurality of functional blocks and wherein each of said

receptor sites includes at least one key to fit said at least one asymmetric feature in one of said plurality of functional blocks.

33. The electronic assembly as in claim 31 wherein each of said plurality of functional blocks has

a top surface,

a bottom surface,

a plurality of vertical edges,

wherein each of said receptor sites is shaped to fit with at least one of said plurality of functional blocks wherein when each of said plurality of functional blocks is coupled to said at least one of said plurality of receptor sites, said top surface faces upward and said bottom surface contacts the bottom of said receptor site;

wherein each of said plurality of functional blocks has a shape that prevents said each of said plurality of functional blocks from coupling with each of said plurality of receptor sites with said top surface facing downward and contacting the bottom of said receptor site; and

wherein each of said at least two different types of functional blocks has a different shape compared to one another.

34. The electronic assembly as in claim 31 wherein at least two of said plurality of functional blocks are made from a different material from one another..

35. The electronic assembly as in claim 31 wherein the two or more types of functional blocks are made of different materials.

36. The electronic assembly as in claim 35 wherein said different materials include Si, SiGe, or GaAs. .

37. The electronic assembly as in claim 35 wherein said two or more types of the functional blocks do not have any asymmetric features.

38. The electronic assembly as in claim 34 wherein said plurality of functional blocks include at least two differently shaped functional blocks and wherein said plurality of receptor sites include at least two differently shaped receptor sites matching said at least two differently shaped functional blocks.

39. The electronic assembly as in claim 35 wherein said plurality of functional blocks and said plurality of receptor sites are sized to prevent cross mating of differently shaped functional blocks into differently shaped receptor sites.

40. The electronic assembly as in claim 31 wherein said plurality of receptor sites is rotated at an angle with respect to said substrate to match a preferred orientation of said plurality of functional blocks during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

41. The electronic assembly as in claim 31 wherein said plurality of receptor sites is pre-oriented to be in a similar orientation with a preferred flow orientation of said functional blocks during a fluidic self assembly process.

42. An electronic assembly comprising:

at least two differently shaped functional blocks having integrated circuits to perform functions pertaining to said electronic assembly; and

at least two differently shaped receptor sites; each of said two differently shaped receptor sites having a complimentary shape to at least one of said at least two differently shaped functional blocks, said at least two differently shaped receptor sites couple to said at least two differently shaped functional blocks,

43. The electronic assembly as in claim 42 wherein one of said two differently shaped functional blocks is a rectangular functional block and one of said two differently shaped functional blocks is a square functional block wherein one of said two differently shaped receptor sites is a rectangular receptor site and one of said two differently shaped receptor sites is a square receptor site.

44. The electronic assembly as in claim 42 wherein said rectangular functional block and said square block are sized to prevent said rectangular functional block from mating with said square receptor site and to prevent said square functional block from mating with said rectangular receptor site.

45. An electronic assembly comprising

at least one functional block having an integrated circuitry to perform a function pertaining to said electronic assembly, said functional block has a plurality of asymmetric features wherein said functional block has a top surface that has four sides and four corners and at least one of said four corners is one of an angle greater than 90-degrees and an angle smaller than 90-degree not a right angle; and

a substrate having at least one receptor site shaped to match said functional block wherein said functional block is coupled to said receptor site.

46. The electronic assembly as in claim 45 wherein said receptor site is rotated at an angle with respect to said substrate to match an orientation of said functional block during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

47. The electronic assembly as in claim 45 wherein said substrate further comprises:

at least two of said receptor sites; and

at least two of said functional blocks to couple to said receptor sites,

wherein said functional blocks include at least two different types of functional blocks each of which performing a different function pertaining to said electronic assembly,

wherein each of said functional blocks has beveled edges and has no point of symmetry, and

wherein said functional blocks are coupled to said receptor sites.

48. The electronic assembly as in claim 47 wherein each of said receptor sites is shaped to match a shape of one of said functional blocks and wherein each of said receptor sites includes at least one key to fit said at least one asymmetric feature in one of said functional blocks.

49. The electronic assembly as in claim 48 wherein each of said functional blocks has

a top surface,

a bottom surface,

a plurality of vertical edges,

wherein when each of said functional blocks is coupled to said at least one of said receptor sites, said top surface faces upward and said bottom surface contacts the bottom of said receptor site;

wherein each of said functional blocks has a shape that prevents said each of said functional blocks from coupling with each of said receptor sites with said top surface facing downward and contacting the bottom of said receptor site; and

wherein each of said functional blocks has a different shape compared to one another.

50. A method of making an electronic assembly comprising:

depositing at least one functional block into a substrate having at least one receptor site using a fluidic self-assembly process wherein said receptor site is shaped to receive said functional block

said functional block comprises an integrated circuitry to perform a function pertaining to said electronic assembly, and has at least one asymmetric feature.

51. The method as in claim 50 further comprising

configuring said receptor site to have said at least one key to fit said at least one asymmetric feature.

52. The method as in claim 50 wherein said at least one asymmetric feature is a plurality of asymmetric features and wherein said at least one key is a plurality of keys each of said plurality of keys to fit with one of said plurality of asymmetric features.

53. The method as in claim 50 further comprising:

configuring said functional block to have a top surface, a bottom surface, and beveled edges, said top surface has a dimension that is larger than a dimension of said bottom surface, and said beveled edges are sloped from said top surface to said bottom surface.

54. The method as in claim 53 wherein said asymmetric feature is located at said top surface of said functional block.

55. The method as in claim 53 further comprising coupling a tab to said top surface of said functional block to form said asymmetric feature in said functional block.

56. The method as in claim 50 further comprising:

configuring said functional block to have a top surface, a bottom surface, and partially beveled edges.

57. The method as in claim 53 wherein said at least one asymmetric feature is a plurality of asymmetric features.

58. The method as in claim 53 further comprising:

rotating said receptor site to be at an angle with respect to said substrate to fit a preferred orientation of said functional block during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

59. A method of making an electronic assembly comprising:

depositing at least one functional block into a substrate having at least one receptor site to mate with said functional block using a fluidic self-assembly process wherein

said functional block comprises an integrated circuitry to perform a function pertaining to said electronic assembly, said functional block further having a top surface, a bottom surface, a plurality of vertical edges, and at least one asymmetric feature;

wherein when said functional block is mated to said receptor site said top surface faces upward and said bottom surface contacts the bottom of said receptor site; and

wherein said functional block further has a shape that prevents said functional block from mating with said receptor site with said top surface faces downward and contacts the bottom of said receptor site.

60. The method as in claim 59 wherein the shape of the cross section of the block is rectangular.

61. The method as in claim 59 wherein said functional block to has at least two asymmetric features and said receptor site has at least two keys, each of said at least two keys fits at least one of said at least two asymmetric features.

62. The method as in claim 59 wherein said the asymmetric feature is a notch that has a right angle alignment to the rest of the top surface of said functional block.

63. The method as in claim 59 further comprising:

rotating said receptor site to be at an angle with respect to said substrate to fit a preferred orientation of said functional block during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

64. A method of making an electronic assembly comprising:

depositing at least one functional block into a substrate having at least one receptor site to mate with said functional block using a fluidic self-assembly process wherein

said functional block comprises an integrated circuitry to perform a function pertaining to said electronic assembly, said functional block further having at least one asymmetrical feature; and wherein

said functional block and said at least one asymmetric feature have shapes to optimize efficient use of a starting material used to fabricate said functional block.

65. The method as in claim 64 further comprising creating said functional block from a starting material wherein said functional block forms a closely packed structure with other functional blocks on said starting material.

66. The method as in claim 64 wherein said receptor site comprises at least one key said at least one key to fit said at least one asymmetric feature.

67. The method as in claim 64 wherein said at least one asymmetric feature is a plurality of asymmetric features and wherein said at least one key is a plurality of keys each of said plurality of keys to fit with one of said plurality of notches.

68. The method as in claim 64 wherein said functional block has a top surface, a bottom surface, and beveled edges, said top surface has a dimension that is larger than a dimension of said bottom surface, and said beveled edges are sloped from said top surface to said bottom surface.

69. The method as in claim 68 wherein said asymmetric feature is located at said top surface of said functional block.

70. The method as in claim 68 further comprises coupling a tab to said top surface of said functional block to form said asymmetric feature in said functional block.

71. The method as in claim 64 further comprising:

rotating said receptor site to be at an angle with respect to said substrate to fit a preferred orientation of said functional block during said fluidic self assembly process wherein at least one side of said receptor site is not parallel with at least one side of said substrate.

72. A method of making electronic assembly comprising:

depositing a functional block into a substrate having a receptor site to mate with said functional block using a fluidic self-assembly process wherein

said functional block comprises an integrated circuitry to perform a function pertaining to said electronic assembly, said functional block further comprises at least two asymmetric features that are arranged on the functional block such that there is at least one top surface rotational symmetry; and

wherein said functional block is further a chiral structure of another functional block having another integrated circuitry, said at least two asymmetric features, and said at least one top surface rotational symmetry.

73. The method as in claim 72 wherein said functional block and said at least two asymmetric features have shapes to optimize efficient use of a starting material used to fabricate said functional block.

74. A method of making an electronic assembly comprising:

depositing a plurality of functional blocks into a substrate having a plurality of receptor sites to mate with said plurality of functional blocks using a fluidic self-assembly process wherein

each of said plurality of functional blocks comprises an integrated circuitry to perform a function pertaining to said electronic assembly,

wherein said plurality of functional blocks includes at least two different types of functional blocks, each of which is used to perform a different function pertaining to said electronic assembly;

wherein each of said plurality of functional blocks has at least one asymmetric feature, and

wherein each of said plurality of receptor sites mates with one of said plurality of functional blocks.

75. The method as in claim 74 wherein each of said plurality of receptor sites includes at least one key to fit with said at least one asymmetric feature.

76. The method as in claim 75 wherein each of said functional block has a top surface, a bottom surface, a plurality of vertical edges,

each of said receptor sites mates with said each functional block using said fluidic self-assembly process;

each functional block is mated to said each receptor site with said top surface faces upward and said bottom surface contacts the bottom of said receptor site;

each of said plurality of functional block has a shape that prevents said each of said plurality of functional blocks from mating with each of said receptor sites with said top surface facing downward and contacting the bottom of said receptor site; and

each of said at least two different types of functional blocks has a different shape compared to one another.

77. The method as in claim 75 wherein at least two types of said plurality of functional blocks are made from a different material from one another.

78. The method as in claim 75 wherein said plurality of functional blocks include at least two differently shaped functional blocks and wherein said plurality of receptor sites include at least two differently shaped receptor sites matching said at least two differently shaped functional blocks.

79. The method as in claim 75 wherein said plurality of functional blocks and said plurality of receptor sites are sized to prevent cross mating of differently shaped functional blocks into differently shaped receptor sites.

80. The method as in claim 76further comprising:

rotating said plurality of receptor sites to be at an angle with respect to said substrate to fit a preferred orientation of said plurality of functional blocks during said fluidic self assembly process wherein at least one side of each of said plurality of receptor sites is not parallel with said substrate.

81. A method of making an electronic assembly comprising:

depositing a plurality of functional blocks into a substrate having a plurality of receptor sites to mate with said plurality of functional blocks using a fluidic self-assembly process wherein

each of said plurality of functional blocks comprises an integrated circuitry to perform a function pertaining to said electronic assembly,

wherein at least one type of function block has a square shape and at least another type of function block has a rectangular shape,

wherein said plurality of receptor sites includes at least a square type of receptor site and at least a rectangular type of receptor site,

wherein said at least one type of function block that has said square shape is only complementary to said square type of receptor site, and

wherein said at least another type of function block that has said rectangular shape is only complementary to said rectangular type of receptor site.

82. The method as in claim 81 wherein said at least one type of functional block that has said square shape is sized to prevent said at least one type of functional block that has said square shape from mating with said rectangular type of receptor site and wherein said at

least another type of functional block that has said rectangular shape is sized to prevent said at least another type of functional block from mating with said square type of receptor site.

83. A functional block comprising:

an integrated circuitry located on a surface of said functional block, said integrated circuitry to perform a function pertaining an electronic assembly;

at least one asymmetrical feature on said surface of functional block wherein said at least one asymmetric feature is shaped to optimize efficient use of a starting material used to fabricate said functional block.

84. A functional block as in claim 83 wherein said functional block is formed together with other functional blocks on said starting material wherein said functional block and said other functional blocks form a close-packed structure to efficiently use said starting material.